File 350:Derwent WPIX 1963-2004/UD,UM &UP=200415
File 347:JAPIO Oct 1976-2003/Oct(Updated 040202)
File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	507	AU='ZHAO H'
S2	2	AU='ZHAO HONG'
S3	1484771	PRESSURE
S4	26	S1:S2 AND S3
S5	15501	THROAT
S6	**1**	**S4 AND S5**
S7	25175	INHAL? OR EXHAL?
S8	26271	RESPIRAT?
S9	2	S4 AND S7:S8
S10	**1**	**S9 NOT S6**

6/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012774395 **Image available**
WPI Acc No: 1999-580622/199949
Method and apparatus for inducing pressure **changes in person's oral and** throat **cavity for health improvement purposes, e.g. to alleviate sore** throat **and snoring**
Patent Assignee: ZHAO H (ZHAO-I)
Inventor: **ZHAO H**
Number of Countries: 083 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9949940	A1	19991007	WO 99IB530	A	19990326	199949	B
AU 9927430	A	19991018	AU 9927430	A	19990326	200010	

Priority Applications (No Type Date): US 9852569 A 19980331
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9949940	A1	E	16	A63B-023/18	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

AU 9927430	A	A63B-023/18	Based on patent WO 9949940

Abstract (Basic): WO 9949940 A1

NOVELTY - The respiration pattern of the subject is first monitored to determine the periods of inhaling and exhaling. A partial vacuum is induced in the mouth during the inhalation period and removed during the exhalation period.

DETAILED DESCRIPTION - The apparatus for carrying out the method includes a hollow appliance (120) shaped for insertion into the mouth and having passages (126,128,130) providing fluid communication between the interior (132) of the appliance and the oral and **throat** cavity. The interior of the appliance is coupled via conduits through a flow switch (160), a vacuum chamber (170) and a regulator (180) to a vacuum pump (110). A sensor (144) in a belt (142) placed around the subject's abdomen generates signals corresponding to inhaling and exhaling. A microprocessor-based controller (150) receives these signals and controls the regulator and flow switch to induce a partial vacuum in

the mouth during the inhalation period and remove it during the exhalation period.

USE - For beneficially affecting a person's health, e.g. to alleviate snoring and sore throats, by stimulating the body's autonomic nervous, circulatory and lymphatic systems, thereby enhancing certain physiological functions, such a lymphatic flow.

DESCRIPTION OF DRAWING(S) - The drawing is a functional block diagram of an embodiment of the apparatus for inducing **pressure** changes in the oral and **throat** cavity.

Vacuum pump (110)
Disc-shaped oral appliance (120)
Passages in wall of oral appliance (126,128,130)
Interior of oral appliance (132)
Abdominal belt (142)
Sensor element (144)
Controller (150)
Flow switch (160)
Vacuum chamber (170)
Regulator (180)
pp; 16 DwgNo 1/6
Derwent Class: P36; S05
International Patent Class (Main): A63B-023/18

10/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015840776
WPI Acc No: 2003-902980/200382
New polymeric acyl indole derivatives, useful for treating various medical conditions e.g. neoplastic disease and for reducing tumor burden

File 348:EUROPEAN PATENTS 1978-2004/Feb W05
File 349:PCT FULLTEXT 1979-2002/UB=20040304,UT=20040226
Set Items Description
S1 6 AU='ZHAO HONGWEI'

1/3,AB/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
01187047
APPARATUS AND METHOD FOR APPLYING SUBSTANCES AND ENERGY FORMS TO A MAMMAL IN COORDINATION WITH ITS RESPIRATION
APPARAT UND VERFAHREN ZUR ATMUNGSSYNCHRONISIERTEN VERABREICHUNG VON WERKSTOFFEN UND ENERGIE AN EINEM SAUGETIER
APPAREIL ET PROCEDE PERMETTANT D'APPLIQUER DES FORMES DE SUBSTANCES ET D'ENERGIE A UN MAMMIFERE EN COORDINATION AVEC SA RESPIRATION
PATENT ASSIGNEE:
Zhao, Hongwei, (2855930), 977 Thompson Boulevard, Windsor, Ontario N8S 2G7, (CA), (Applicant designated States: all)
INVENTOR:
Zhao, Hongwei , 977 Thompson Boulevard, Windsor, Ontario N8S 2G7, (CA
PATENT (CC, No, Kind, Date):
WO 200040285 000713
APPLICATION (CC, No, Date): EP 2000900086 000107; WO 2000IB20 000107
PRIORITY (CC, No, Date): US 227771 990108
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: A61M-021/00
NOTE:
Zhao, Hongwei, (2855930), 977 Thompson Boulevard, Windsor, Ontario N8S 2G7, (CA); COMMUNICATION PURSUANT TO RULE 85A(1) EPC AS PER EPO FORM 1217N DATED 27.02.01
LANGUAGE (Publication,Procedural,Application): English; English; English

1/3,AB/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
01098989
APPARATUS AND METHOD FOR GENERATING PRESSURE CHANGES IN A MAMMALIAN ORAL/THROAT CAVITY
GERAT UND VERFAHREN ZUM GENERIEREN VON DRUCKANDERUNGEN IN DEM MUND/RACHEN EINES SAUGETIERES
DISPOSITIF ET PROCEDE SERVANT A PRODUIRE DES MODIFICATIONS DE PRESSION DANS LA CAVITE BUCCALE ET LA GORGE D'UN MAMMIFERE
PATENT ASSIGNEE:
Zhao, Hongwei, (2855930), 977 Thompson Boulevard, Windsor, Ontario N8S 2G7, (CA), (Applicant designated States: all)
INVENTOR:
Zhao, Hongwei , 977 Thompson Boulevard, Windsor, Ontario N8S 2G7, (CA
PATENT (CC, No, Kind, Date):
WO 9949940 991007
APPLICATION (CC, No, Date): EP 99907811 990326; WO 99IB530 990326
PRIORITY (CC, No, Date): US 52569 980331
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: A63B-023/18
LANGUAGE (Publication,Procedural,Application): English; English; English

1/3,AB/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01094191
APPARATUS AND METHOD FOR ENHANCING LYMPH FLOW BY GENERATING A VACUUM IN A MAMMALIAN ORAL/THROAT CAVITY
GERAT UND VERFAHREN ZUM VERBESSERN DER LYMPHDURCHSTROMUNG DURCH UNTERDRUCKERZEUGUNG IN DEM MUND/RACHENRAUM EINES SAUGETIERES
APPAREIL ET PROCEDE D'AMELIORATION DE L'ECOULEMENT DE LA LYMPHE PAR PRODUCTION D'UN VIDE DANS LA CAVITE ORALE/DE LA GORGE D'UN MAMMIFERE
PATENT ASSIGNEE:
Zhao, Hongwei, (2855930), 977 Thompson Boulevard, Windsor, Ontario N8S 2G7, (CA), (Applicant designated States: all)
INVENTOR:
Zhao, Hongwei , 977 Thompson Boulevard, Windsor, Ontario N8S 2G7, (CA
PATENT (CC, No, Kind, Date): WO 9949925 991007
APPLICATION (CC, No, Date): EP 99907812 990326; WO 99IB532 990326
PRIORITY (CC, No, Date): US 52569 980331; US 69294 980429
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: A61M-016/04; A61M-001/00
LANGUAGE (Publication,Procedural,Application): English; English; English

1/3,AB/4 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00576912
APPARATUS AND METHOD FOR APPLYING SUBSTANCES AND ENERGY FORMS TO A MAMMAL IN COORDINATION WITH ITS RESPIRATION
APPAREIL ET PROCEDE PERMETTANT D'APPLIQUER DES FORMES DE SUBSTANCES ET D'ENERGIE A UN MAMMIFERE EN COORDINATION AVEC SA RESPIRATION
Patent Applicant/Assignee:
ZHAO Hongwei,
Inventor(s):
ZHAO Hongwei
Patent and Priority Information (Country, Number, Date):
Patent: WO 200040285 A1 20000713 (WO 0040285)
Application: WO 2000IB20 20000107 (PCT/WO IB0000020)
Priority Application: US 99227771 19990108
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 3000
English Abstract
An apparatus and method for applying substances and/or energy forms to a mammalian body features coordinating the application of such substances or energy forms in coordination with the respiration phase of the mammal being treated.

1/3,AB/5 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

00518588
APPARATUS AND METHOD FOR GENERATING PRESSURE CHANGES IN A MAMMALIAN ORAL/THROAT CAVITY
DISPOSITIF ET PROCEDE SERVANT A PRODUIRE DES MODIFICATIONS DE PRESSION DANS LA CAVITE BUCCALE ET LA GORGE D'UN MAMMIFERE
Patent Applicant/Assignee:
ZHAO Hongwei,
Inventor(s):
ZHAO Hongwei
Patent and Priority Information (Country, Number, Date):
Patent: WO 9949940 A1 19991007
Application: WO 99IB530 19990326 (PCT/WO IB9900530)
Priority Application: US 9852569 19980331
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 3091
English Abstract
Predetermined pressure changes in the oral and throat cavity is achieved by inducing at least a partial vacuum in the mouth and throat area of a mammal in temporal coordination with the mammal's breathing pattern. The partial vacuum is selectively applied to the mouth and throat cavity only during inhalation cycles of the breathing pattern. A further aspect of the invention provides for additionally inducing a positive or atmospheric pressure in the mouth and throat cavity only during exhalation cycles of the breathing pattern.

1/3,AB/6 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00518573
APPARATUS AND METHOD FOR ENHANCING LYMPH FLOW BY GENERATING A VACUUM IN A MAMMALIAN ORAL/THROAT CAVITY
APPAREIL ET PROCEDE D'AMELIORATION DE L'ECOULEMENT DE LA LYMPHE PAR PRODUCTION D'UN VIDE DANS LA CAVITE ORALE/DE LA GORGE D'UN MAMMIFERE
Patent Applicant/Assignee:
ZHAO Hongwei,
Inventor(s):
ZHAO Hongwei
Patent and Priority Information (Country, Number, Date):
Patent: WO 9949925 A1 19991007
Application: WO 99IB532 19990326 (PCT/WO IB9900532)
Priority Application: US 9852569 19980331; US 9869294 19980429
Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English

Fulltext Word Count: 1792
English Abstract

Apparatus and a method are provided for establishing and maintaining a negative pressure or vacuum in a user's oral and throat cavity while the user breaths only through the nasal passages. The negative pressure or vacuum is believed to enhance lymph flow of the individual thereby leading to beneficial physiological effects.

```
File 727:Canadian Newspapers 1990-2004/Mar 08
Set     Items   Description
S1          0   HONGWEI()ZHAO
S2       1780   ZHAO
S3     130563   THROAT OR MOUTH
S4     314319   PRESSURE
S5     162307   BREATH?
S6      23443   RESPIRAT?
S7      21161   INHAL? OR EXHAL?
S8        139   S2 AND S4
S9         14   S8 AND (S3 OR S5 OR S6 OR S7)
S10        14   RD (unique items)
S11         8   S10/1999:2004
S12         6   S10 NOT S11 [not relevant]

File 155:MEDLINE(R) 1966-2004/Feb W5
File   5:Biosis Previews(R) 1969-2004/Feb W5
File  73:EMBASE 1974-2004/Feb W5
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W5
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
Set     Items   Description
S1         13   AU='ZHAO HONGWEI'
S2       2568   AU='ZHAO H' OR AU='ZHAO H.'
S3    1549472   ORAL OR THROAT OR MOUTH
S4    1840252   PRESSURE
S5    1722715   INHAL? OR EXHAL? OR RESPIRAT? OR BREATH?
S6         13   S1
S7         11   RD (unique items)
S8         10   S7/1999:2004
S9          1   S7 NOT S8
S10      2568   S2 NOT S1
S11       227   S10 AND S3:S5
S12     11193   S3 AND S4 AND S5
S13    259515   S4 AND (S3 OR S5)
S14         0   S10 AND S12
S15         7   S10 AND S13
S16         6   RD (unique items)

 9/6/1      (Item 1 from file: 5)
0011058489   BIOSIS NO.: 199799692549
A consistent estimator for the distribution of quality adjusted survival
  time
1997

 16/6/1      (Item 1 from file: 155)
14120327   PMID: 9817686
  Altered lung mechanics after double-lung transplantation.
Nov 1998

 16/6/2      (Item 2 from file: 155)
12203679   PMID: 12541384
  [Complications of PPP: prevention and management strategies]
Sep 1999

 16/6/3      (Item 1 from file: 73)
12272712    EMBASE No: 2003386708
```

Mitochondrial sources of HSUB2OSUB2 generation play a key role in flow-mediated dilation in human coronary resistance arteries
19 SEP 2003

16/6/4 (Item 2 from file: 73)
12215973 EMBASE No: 2003327759
Inhaling **betaSUB2-agonist with heliox-driven in bronchial asthma**
01 JUL 2003

16/6/5 (Item 3 from file: 73)
07673469 EMBASE No: 1999126292
Long-term vascular effects of Nomega-nitro-L-arginine methyl ester are not solely mediated by inhibition of endothelial nitric oxide synthesis in the rat mesenteric artery
1999

16/6/6 (Item 4 from file: 73)
06857884 EMBASE No: 1997140519
Distinct mechanisms of modulation of angiotensin II type I receptor gene expression in heart and aorta
1997

```
File 155:MEDLINE(R) 1966-2004/Feb W5
File   5:Biosis Previews(R) 1969-2004/Feb W5
File  73:EMBASE 1974-2004/Feb W5
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W5
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 144:Pascal 1973-2004/Feb W5
File   2:INSPEC 1969-2004/Feb W5
File   6:NTIS 1964-2004/Mar W1
File   8:Ei Compendex(R) 1970-2004/Feb W5
File  94:JICST-EPlus 1985-2004/Feb W5
File  95:TEME-Technology & Management 1989-2004/Feb W4
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Feb
File  65:Inside Conferences 1993-2004/Mar W1
File  35:Dissertation Abs Online 1861-2004/Feb
Set     Items   Description
S1     414176   MOUTH? ? OR (ORAL OR BUCCAL)()(CAVITY OR CAVITIES) OR THRO-
             AT? ? OR PHARYNX
S2     220270   PRESSURE(2N)CHANG??? OR (ATMOSPHERIC OR POSITIVE OR NEGATI-
             VE)()PRESSURE
S3     977580   VACUUM? ? OR PUMP? ? OR COMPRESSOR? ? OR COMPRESSION()(DEV-
             ICE? ? OR MACHINE OR MACHINES)
S4    1015735   ENSOR OR SENSORS OR DETECTOR? ?
S5     723791   SENSING OR DETECTING
S6     351778   CONTROLLER? ? OR MICROCONTROLLER? ?
S7     446641   PROCESSOR? ? OR MICROPROCESSOR? ?
S8      50105   CPU OR CENTRAL()PROCESSING()(UNIT OR UNITS)
S9     240449   MICROCOMPUTER? ? OR MINICOMPUTER? ?
S10   4208209   COMPUTER? ?
S11    482197   SENSOR
S12     83787   APNEA OR SNORING OR SNORE? ? OR AOP OR STERTOR OR CHEYNE()-
             STOKES OR (BIOT?? OR KUSSMAUL??)()BREATHING
S13   1901341   RESPIRATION OR RESPIRATORY
S14     49578   'THROAT' OR 'PHARYNX' OR DC='A14.70' OR 'PHARYNX'
S15       468   PHARYNGEAL()(CAVITY OR CAVITIES)
S16     59183   'APNEA' OR 'RESPIRATION DISORDER' OR R3:R6 OR R7 OR R8 OR -
             R9 OR R10 OR R11 OR R13 OR R15:R18
S17    179402   BREATHING
S18    415134   S1 OR S14 OR S15
S19   2014995   S12 OR S13 OR S16 OR S17
S20   1858932   S4 OR S5 OR S11
S21   4786606   S6:S10
S22      3577   S3 AND S20 AND S21
S23         4   S18 AND S22
S24         4   RD (unique items) [not relevant]
S25         4   S1 AND S22
S26         0   S25 NOT S24
S27        42   S22 AND S19
S28         4   S2 AND S27
S29         4   S28 NOT S24
S30         2   RD (unique items)
S31         0   S22 AND S16
S32        70   S2 AND S22
S33         4   S1 AND S22
S34         0   S33 NOT S24

 30/6/2     (Item 1 from file: 6)
```

1535596 NTIS Accession Number: NTN90-0921
Compact Analyzer/ Controller **for Oxygen-Enrichment System: This system controls hypersonic air-** breathing **engine tests**
(NTIS Tech Note)
Oct 90

30/7,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

04011602 PMID: 1128309
Automated system for measurement of mechanics of breathing .
Watson H; Landa J; Sackner M A
Medical instrumentation (UNITED STATES) Jan-Feb 1975, 9 (1) p3-10, ISSN 0090-6689 Journal Code: 0361136
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
We describe a complete automated system for measurement of total **respiratory** resistance and compliance, and of pulmonary resistance and compliance in humans and anesthetized animals. The device for testing the chest-lung system consists of a sinusoidal **pump** with a stroke adjustable from 20 ml to 600 ml over a cycling frequency of 0.3 to 30 Hz. Pressure and flow or volume are inputted into an analog network for wave shaping, then to an arithmetic unit composed of sample-and-hold amplifiers, peak, minimum and zero **detecting** circuits, an analog division circuit, and a digital logic **processor** . The **computer** takes the peak-to-peak amplitude of one of two sinusoidal inputs at 0.3 to 10 Hz and the corresponding amplitude of the other input in the presence of a.c. noise and d.c. shifts, divides one into the other, and displays an answer on a digital voltmeter. In addition, the analog output is displayed on the cathode-ray tube of a storage oscilloscope. Plots of total resistance and pulmonary resistance are recorded as a function of lung volume in both humans inspiring voluntarily as well as anesthetized dogs inflated by **positive pressure** from the test apparatus. Total and pulmonary dynamic compliance, as a function of **breathing** frequency, can only be measured by the **computer** if a symmetrical waveform is presented to it. This cannot be achieved in spontaneously **breathing** subjects but is accomplished in **apneic** animals by producing sinusoidal oscillations from the test apparatus. Our on-line method for measurement of total **respiratory** resistance is now used in the Clinical Pulmonary Laboratory for experimental work, and we are in the process of obtaining values in normal subjects.
Record Date Created: 19750718
Record Date Completed: 19750718
Descriptors: Airway Resistance; *Biomedical Engineering--instrumentation --IS; *Lung Compliance; *Work of **Breathing** ; Adult; Animals; Automation; Biomechanics; **Computers** , Hybrid; Dogs; Lung--physiology--PH; Oscillometry ; **Respiration** ; Spirometry; Thorax--physiology—PH

```
File  98:General Sci Abs/Full-Text 1984-2004/Feb
File   9:Business & Industry(R) Jul/1994-2004/Mar 08
File  16:Gale Group PROMT(R) 1990-2004/Mar 09
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2004/Mar 05
File 441:ESPICOM Pharm&Med DEVICE NEWS 2004/Mar W1
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Mar 09
File 149:TGG Health&Wellness DB(SM) 1976-2004/Feb W5
File 369:New Scientist 1994-2004/Feb W5
File 370:Science 1996-1999/Jul W3
File 636:Gale Group Newsletter DB(TM) 1987-2004/Mar 09
Set     Items   Description
S1     326520   SENSOR OR SENSORS OR DETECTOR? ?
S2     150642   SENSING OR DETECTING
S3     416126   CONTROLLER? ? OR MICROCONTROLLER? ?
S4     841432   PROCESSOR? ? OR MICROPROCESSOR? ?
S5     123586   CPU OR CENTRAL()PROCESSING()(UNIT OR UNITS)
S6     253857   MICROCOMPUTER? ? OR MINICOMPUTER? ?
S7    5529468   COMPUTER? ?
S8     463494   VACUUM? ? OR PUMP? ? OR COMPRESSOR? ? OR COMPRESSION()(DEV-
             ICE? ? OR MACHINE OR MACHINES)
S9     192404   MOUTH? ? OR (ORAL OR BUCCAL OR PHARYNGEAL)()(CAVITY OR CAV-
             ITIES) OR THROAT? ? OR PHARYNX
S10     11191   APNEA OR SNORE? ? OR SNORING OR STERTOR OR AOP OR CHEYNE()-
             STOKES
S11    189783   BREATHING OR RESPIRATORY OR RESPIRATION
S12    436862   S1:S2
S13   6056564   S3:S7
S14      1992   S12(S)S13(S)S8
S15         0   S14(S)S9(S)S10:S11
S16         5   S14(S)S9
S17         5   RD (unique items) [not relevant]
S18         7   S14(S)S10:S11
S19         7   S18 NOT S16
S20         5   RD (unique items)

 20/3,AB,K/3     (Item 1 from file: 149)
DIALOG(R)File 149:TGG Health&Wellness DB(SM)
(c) 2004 The Gale Group. All rts. reserv.
02058044     SUPPLIER NUMBER: 82320821    (USE FORMAT 7 OR 9 FOR FULL TEXT)
Evidence-based guidelines for weaning and discontinuing ventilatory support
  *: a collective task force facilitated by the American College of Chest
  Physicians; the American Association for Respiratory Care; and the
  American College of Critical Care Medicine. (Section I: guidelines).
Chest, 120, 6, 375S(21)
Dec, 2001
PUBLICATION FORMAT: Magazine/Journal; Refereed   ISSN: 0012-3692
LANGUAGE: English  RECORD TYPE: Fulltext  TARGET AUDIENCE: Professional
WORD COUNT:   17834    LINE COUNT:  01684
...      be especially important if previously unrecognized, but reversible,
conditions are discovered.
      Neurologic Issues: The ventilatory pump  controller  in the
brainstem is a rhythm and pattern generator, which receives feedback from
cortical, chemoreceptive, and mechanoreceptive  sensors . The failure of
this  controller  can come from several factors. (5-12) These factors can
be either structural (eg, brainstem...
```

...16,17) A unique neurologic dysfunction that also could cause ventilator dependence is obstructive sleep **apnea** , in which an artificial airway may be necessary to maintain airway patency. (10,11)

Respiratory...

```
File  98:General Sci Abs/Full-Text 1984-2004/Feb
File   9:Business & Industry(R) Jul/1994-2004/Mar 08
File  16:Gale Group PROMT(R) 1990-2004/Mar 09
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2004/Mar 05
File 441:ESPICOM Pharm&Med DEVICE NEWS 2004/Mar W1
File 621:Gale Group New Prod.Annou.(R) 1985-2004/Mar 09
File 149:TGG Health&Wellness DB(SM) 1976-2004/Feb W5
File 369:New Scientist 1994-2004/Feb W5
File 370:Science 1996-1999/Jul W3
File 636:Gale Group Newsletter DB(TM) 1987-2004/Mar 09
Set     Items   Description
S1     326520   SENSOR OR SENSORS OR DETECTOR? ?
S2     150642   SENSING OR DETECTING
S3     416126   CONTROLLER? ? OR MICROCONTROLLER? ?
S4     841432   PROCESSOR? ? OR MICROPROCESSOR? ?
S5     123586   CPU OR CENTRAL()PROCESSING()(UNIT OR UNITS)
S6     253857   MICROCOMPUTER? ? OR MINICOMPUTER? ?
S7    5529468   COMPUTER? ?
S8     463494   VACUUM? ? OR PUMP? ? OR COMPRESSOR? ? OR COMPRESSION()(DEV-
              ICE? ? OR MACHINE OR MACHINES)
S9     192404   MOUTH? ? OR (ORAL OR BUCCAL OR PHARYNGEAL)()(CAVITY OR CAV-
              ITIES) OR THROAT? ? OR PHARYNX
S10     11191   APNEA OR SNORE? ? OR SNORING OR STERTOR OR AOP OR CHEYNE()-
              STOKES
S11    189783   BREATHING OR RESPIRATORY OR RESPIRATION
S12    436862   S1:S2
S13   6056564   S3:S7
S14      1992   S12(S)S13(S)S8
S15         0   S14(S)S9(S)S10:S11
S16         5   S14(S)S9
S17         5   RD (unique items)
S18         7   S14(S)S10:S11
S19         7   S18 NOT S16
S20         5   RD (unique items)
S21     27017   PRESSURE(2N)CHANG??? OR (ATMOSPHERIC OR POSITIVE OR NEGATI-
              VE)()PRESSURE
S22         0   S14(S)S21(S)S11
S23        25   S14(S)S21
S24        24   S23 NOT (S16 OR S18)
S25        21   RD (unique items)
S26        21   Sort S25/ALL/PD,A

 26/8/4     (Item 4 from file: 160)
DIALOG(R)File 160:(c) 1999 The Gale Group. All rts. reserv.
01916397
Hitachi Releases Energy-Saving Enclosed Compressor
March 30, 1988
COMPANY:
    *Hitachi DUNS: 69-054-1503 TICKER: HITA (NYSE) CUSIP: 433578
PRODUCT: *Compressors (3563100)
EVENT:   *Product Design & Development (33)
COUNTRY: *Japan (9JPN)

 26/8/5     (Item 5 from file: 160)
DIALOG(R)File 160:(c) 1999 The Gale Group. All rts. reserv.
```

01939545
Design international: Computer-controlled compressor saves energy
May 12, 1988
COMPANY:
*Hitachi DUNS: 69-054-1503 TICKER: HITA (NYSE) CUSIP: 433578
PRODUCT: *Compressors (3563100)
EVENT: *Product Design & Development (33)
COUNTRY: *Japan (9JPN)

26/8/15 (Item 15 from file: 98)
DIALOG(R)File 98:(c) 2004 The HW Wilson Co. All rts. reserv.
04368938 H.W. WILSON RECORD NUMBER: BGSA00118938
Pressure-tunable column selectivity for high-speed vacuum-outlet GC.
DESCRIPTORS: Gas chromatography; Capillary tubes
June 1 2000 (20000601)

26/8/18 (Item 18 from file: 16)
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
08347487 Supplier Number: 70696052 (USE FORMAT 7 FOR FULLTEXT)
The Development of Application-Specific Components and Subsystems.
Feb, 2001
Word Count: 2969
PUBLISHER NAME: Cahners Publishing Company
EVENT NAMES: *330 (Product information)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3674000 (Semiconductor Devices)
INDUSTRY NAMES: BUSN (Any type of business); CMPT (Computers and Office Automation); ELEC (Electronics); INTL (Business, International)
SIC CODES: 3674 (Semiconductors and related devices)
NAICS CODES: 334413 (Semiconductor and Related Device Manufacturing)
SPECIAL FEATURES: LOB

26/8/19 (Item 19 from file: 148)
DIALOG(R)File 148:(c)2004 The Gale Group. All rts. reserv.
14243737 SUPPLIER NUMBER: 82299309 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Recent advances in compact, smart vacuum, and: Gas pressure sensors. (Vacuum Technology/Applications).
Jan, 2002
WORD COUNT: 2743 LINE COUNT: 00253
INDUSTRY CODES/NAMES: BUSN Any type of business; ELEC Electronics
DESCRIPTORS: Instrument industry--Design and construction
GEOGRAPHIC CODES/NAMES: 1USA United States
PRODUCT/INDUSTRY NAMES: 3823410 (Pressure Sensors)
EVENT CODES/NAMES: 340 Product specifications
SIC CODES: 3823 Process control instruments
NAICS CODES: 334513 Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables

```
File  10:AGRICOLA 70-2004/Jan
File  50:CAB Abstracts 1972-2004/Feb
File 143:Biol. & Agric. Index 1983-2004/Feb
File 203:AGRIS 1974-2004/Feb
Set     Items   Description
S1      20990   SENSOR OR SENSORS OR DETECTOR? ?
S2      48157   SENSING OR DETECTING
S3       2678   CONTROLLER? ? OR MICROCONTROLLER? ?
S4       8995   PROCESSOR? ? OR MICROPROCESSOR? ?
S5        163   CPU OR CENTRAL()PROCESSING()(UNIT OR UNITS)
S6       6962   MICROCOMPUTER? ? OR MINICOMPUTER? ?
S7      86407   COMPUTER? ?
S8      31236   VACUUM? ? OR PUMP? ? OR COMPRESSOR? ? OR COMPRESSION()(DEV-
             ICE? ? OR MACHINE OR MACHINES)
S9      36877   MOUTH? ? OR (ORAL OR BUCCAL OR PHARYNGEAL)()(CAVITY OR CAV-
             ITIES) OR THROAT? ? OR PHARYNX
S10       609   APNEA OR SNORE? ? OR SNORING OR STERTOR OR AOP OR CHEYNE()-
             STOKES
S11    111417   BREATHING OR RESPIRATORY OR RESPIRATION
S12      5661   PRESSURE(2N)CHANG??? OR (ATMOSPHERIC OR POSITIVE OR NEGATI-
             VE)()PRESSURE
S13         0   IC=(A61M-016 OR A62B OR A61M-015 OR A61B-005 OR F61K-031 OR
              B65D-81)
S14       105   S1:S2 AND S3:S7 AND S8
S15         0   S9 AND S14
S16         0   S14 AND S10:S11
S17     68077   ORAL?? OR PHARYNGEAL
S18         0   S14 AND S17

File 155:MEDLINE(R) 1966-2004/Feb W5
File   5:Biosis Previews(R) 1969-2004/Feb W5
File  73:EMBASE 1974-2004/Feb W5
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W5
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 144:Pascal 1973-2004/Feb W5
File   2:INSPEC 1969-2004/Feb W5
File   6:NTIS 1964-2004/Mar W1
File   8:Ei Compendex(R) 1970-2004/Feb W5
File  94:JICST-EPlus 1985-2004/Feb W5
File  95:TEME-Technology & Management 1989-2004/Feb W4
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Feb
File  65:Inside Conferences 1993-2004/Mar W1
File  35:Dissertation Abs Online 1861-2004/Feb
Set     Items   Description
S1    1282774   SENSOR OR SENSORS OR DETECTOR? ?
S2     723799   SENSING OR DETECTING
S3     351778   CONTROLLER? ? OR MICROCONTROLLER? ?
S4     446642   PROCESSOR? ? OR MICROPROCESSOR? ?
S5      50105   CPU OR CENTRAL()PROCESSING()(UNIT OR UNITS)
S6     240449   MICROCOMPUTER? ? OR MINICOMPUTER? ?
S7    4208276   COMPUTER? ?
S8     977581   VACUUM? ? OR PUMP? ? OR COMPRESSOR? ? OR COMPRESSION()(DEV-
             ICE? ? OR MACHINE OR MACHINES)
S9     414394   MOUTH? ? OR (ORAL OR BUCCAL OR PHARYNGEAL)()(CAVITY OR CAV-
             ITIES) OR THROAT? ? OR PHARYNX
S10     83766   APNEA OR SNORE? ? OR SNORING OR STERTOR OR AOP OR CHEYNE()-
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            STOKES
S11    1979294    BREATHING OR RESPIRATORY OR RESPIRATION
S12     220270    PRESSURE(2N)CHANG??? OR (ATMOSPHERIC OR POSITIVE OR NEGATI-
            VE)()PRESSURE
S13    1858908    S1:S2
S14    4786674    S3:S7
S15       3577    S13 AND S14 AND S8
S16          4    S15 AND S9
S17          4    RD (unique items) [not relevant]
S18          1    S15 AND S10
S19         41    S15 AND S11
S20         70    S15 AND S12
S21          4    S19 AND S20
S22          4    S21 NOT S16 [2 duplicates; 2 not relevant]
S23          1    S18 NOT (S16 OR S21)
S24    1885951    ORAL?? OR BUCCAL OR PHARYNGEAL
S25          0    S19:S20 AND S24
S26    3377072    PRESSURE
S27         24    S19 AND S26
S28         20    S27 NOT (S16 OR S21 OR S18)
S29         14    RD (unique items)
S30         14    Sort S29/ALL/PY,A

23/6/1      (Item 1 from file: 8)
05543176
   Title:  In vivo performance evaluation of the feedback transcutaneous
energy transmission system (FTETS) for automatic voltage regulation
  Conference Title: 46th Annual Conference and Exposition of ASAIO
  Publication Year: 2000

 30/6/12      (Item 12 from file: 8)
05541921
    Title:  Development of a control and monitor system for the
cardiopulmonary cerebral resuscitation (CPCR) device
  Publication Year: 2000

 30/6/13      (Item 13 from file: 5)
0013272479   BIOSIS NO.: 200100444318
Portable medical gas system tester
2001

 30/6/14      (Item 14 from file: 5)
0014376783   BIOSIS NO.: 200300345502
Positive airway pressure device with indirect calorimetry system
2003

 30/7,K/1      (Item 1 from file: 73)
DIALOG(R)File  73:EMBASE
(c) 2004 Elsevier Science B.V. All rts. reserv.
00188863      EMBASE No: 1974179000
  Construction and operation of two 'open circuit' respiration chambers
for young cattle
  CONSTRUCTION ET FONCTIONNEMENT DE 2 CHAMBRES RESPIRATOIRES DU TYPE
'CIRCUIT OUVERT' POUR JEUNES BOVINS
  Vermorel M.; Bouvier J.C.; Bonnet Y.; Fauconneau G.
  Stat. Etude Metab., Cent. Rech. Clermont Ferrand, INRA, Beaumont  France
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Annales de Biologie Animale, Biochimie, Biophysique (ANN. BIOL. ANIM. BIOCHIM. BIOPHYS.) 1973, 13/4 (659-681)
CODEN: ABABA
DOCUMENT TYPE: Journal
LANGUAGE: FRENCH

Two **respiration** chambers of the open circuit type designed for studies in nutrition and bioclimatology have been operating since August 1971. The dimensions of the chambers are such that they will accommodate 2 young cattle weighing up to 350 kg, 2 sheep together or groups of 7 lambs in individual digestibility cages. The 2 chambers are separated by an air lock and are equipped with port holes and gloves which permit manipulation of the animals. The air conditioning system can regulate the temperature between 10 and 32degreeC and relative humidity between 40 and 90% with little variation (+/- 0.2degreeC and +/- 2% RH). The flow meters operate on the venturi principle and are equipped with micro flow meters which give a linear electrical signal proportional to total flow. They are calibrated graphimetrically using cylinders of compressed air. Ventilation rate can be regulated between 4 and 12 msup 3/hr, with extreme stability (maximum variation 50 l in 24 hr). The difference in concentration in COinf 2 from atmosphere is determined by two differential analyzers Unor (Mahiak) reading 0-1%; linear and very stable. Two differential paramagnetic oxygen analyzers reading 20-21% (Oxygor) Mahiak, determine the difference in concentration of oxygen between air entering and leaving the chamber; the Oxygor analyzers are very sensitive to water vapor so the air is dried over silica gel. The 4 analyzers are equipped with a **pressure regulating** system. Air is analyzed continuously. Moreover, a support device enables the collection of a mean sample of air (7 l) during the 24 hr period; a piston is displaced in a vertical cylinder due to the displacement of water by a **pump** . The validity of the measurements of **respiratory** exchanges is tested by comparing quantities of gas (COinf 2, Ninf 2) injected into the **respiratory** chamber with the quantities recovered by analysis; differences are of the order of 1%. The response time of the equipment is less than 2 mn. The system is also equipped with physical indicators (wet and dry bulb temperatures, air movement), physiological recorders (temperatures, heat and **respiration** rates), threshold **detectors** , safety devices and alarm. These different indicators are scanned by a central recorder at a variable frequency (1, 2, 10, 20, 30 or 60 mn, usually 2 mn); the data are printed on paper (typewriter) punched onto paper tape and treated by a program which gives mean rates per hr and totals per day. The animals spend 6 days in the **respiration** chamber; 2 days for adaptation and 4 measurement days. Energy retained and C-N balance are calculated by **computer** for each period of 4 days: the difference between these 2 balances has been equal to 0.2 +/- 1.2% of energy intake during the course of the first study.

30/7,K/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0004507556 BIOSIS NO.: 198529036455
CONTROL SYSTEM FOR ASSIST PUMP USING NONINVASIVE MEASUREMENTS
AUTHOR: SUZUKI Y (Reprint); MITAMURA Y; OKAMOTO K; SASAHARA J; SHIMOOKA S; MIKAMI T
AUTHOR ADDRESS: DEP BIOMED CONTROL, RES INST APPLIED ELECTRICITY, UNIV HOKKAIDO, SAPPORO 060, JPN**JAPAN
JOURNAL: Life Support Systems 3 (1): p63-65 1985
CONFERENCE/MEETING: 11TH CONGRESS OF THE EUROPEAN SOCIETY FOR ARTIFICIAL ORGANS, SEPT. 1984. LIFE SUPPORT SYST.

ISSN: 0261-989X
DOCUMENT TYPE: Meeting
RECORD TYPE: Citation
LANGUAGE: ENGLISH

30/7,K/6 (Item 6 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2004 Elsevier Science B.V. All rts. reserv.
04388511 EMBASE No: 1990276603
Devices and monitoring during neonatal ECMO: Survey results
Allison P.L.; Kurusz M.; Graves D.F.; Zwischenberger J.B.
Division Cardiothoracic Surg., John Sealy Hospital, University Texas Med. Branch,Galveston, TX 77550 United States
Perfusion (PERFUSION) (United Kingdom) 1990, 5/3 (193-201)
CODEN: PERFE ISSN: 0267-6591
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
A survey of active ECMO centres regarding neonatal ECMO equipment and personnel was obtained by telephone interview in late summer 1989. Forty-seven of the centres in the USA listed in the Ann Arbor ELSO (Extracorporeal Life Support Organization) Registry at the time (>90%) were contracted and all participated. Nearly all use a roller **pump**, while less than 5% use a centrifugal **pump**. All programmes use a SciMed membrane oxygenator and 91% a SciMed heat exchanger. Heat exchanger water sources include the Gaymar T-pump (42%), Seabrook (25%) and Cincinnati Sub-Zero (23%) units. Eighty-seven per cent use a bladder box servo-regulated to the roller **pump**; these are most often custom-made (69%) but 13% of programmes use a commercially available (Seabrook) bladder box. Ten per cent use a pressure-regulated roller **pump** rather than a conventional (displacement) bladder box to detect decreases in venous return. Nearly 80% monitor circuit line pressures between the **pump** and patient. Seventeen per cent use an air bubble **detector** on the arterial side of the circuit. Only 10% use an arterial bubble trap and 6% an arterial line filter. Seventy-five per cent do not monitor gas line **pressures** into the membrane lung, but one-third do use a gas line pop-off valve to prevent elevated gas phase **pressures**. Seventy per cent reported use of continuous in-line measurement of mixed venous oxygen saturation; no programme reported any blood chemistries being monitored in line. About 50% use an oxygen analyser for the oxygenator sweep gas and one-fifth use a blood flow meter. Fifty per cent monitor blood temperature in the circuit. Seventy-two per cent monitor activated clotting times with a Hemochron device, 21% with a Trimed ACTester and 4% with a Hemotec ACT. The background of ECMO specialists was primarily registered nurses, but many programmes also use respiratory therapists and perfusionists. These data may provide guidance for new programmes and suggest technological improvements.

30/7,K/9 (Item 9 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2004 Inst for Sci Info. All rts. reserv.
05139948 Genuine Article#: VC773 Number of References: 6
Title: MICROCOMPUTER -BASED INSTRUMENT FOR MEASURING A NOVEL PULMONARY-FUNCTION TEST
Author(s): CRAINE BL; CRAINE ER
Corporate Source: WESTERN RES CO INC/TUCSON//AZ/85719
Journal: REVIEW OF SCIENTIFIC INSTRUMENTS, 1996, V67, N8 (AUG), P2910-2913
ISSN: 0034-6748

Language: ENGLISH Document Type: ARTICLE

Abstract: The design of a prototype instrument for measuring the end-tidal concentration of carbon monoxide during human **respiration** is presented. The instrument automatically samples the final sixty cubic centimeters of exhaled breath, from successive **breathing** cycles, by coordinating a **pump** and the **breathing** cycle with a set of **vacuum** and **pressure** **sensors** . The concentration of carbon monoxide is measured using a nondispersive infrared spectrophotometer. The amount of carbon monoxide present is measured relative to the source air concentration eliminating the need for calibrating the instrument. The testing protocol and measurements can be controlled by a **microcomputer** connected to the instrument through a standard RS-232 serial interface. When at equilibrium, the nd-tidal concentration of CO can be measured in a simple and reproducible fashion. This simplified technology allows for the construction of a small, portable, easy to use instrument that will allow the application of this new pulmonary function test at the point of contact with patients. (C) 1996 American Institute of Physics.

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200415
File 347:JAPIO Oct 1976-2003/Oct(Updated 040202)
File 371:French Patents 1961-2002/BOPI 200209
Set     Items   Description
S1    1254741   SENSOR OR SENSORS OR DETECTOR? ?
S2     831279   SENSING OR DETECTING
S3     692353   CONTROLLER? ? OR MICROCONTROLLER? ?
S4     445371   PROCESSOR? ? OR MICROPROCESSOR? ?
S5     171011   CPU OR CENTRAL()PROCESSING()(UNIT OR UNITS)
S6     440340   MICROCOMPUTER? ? OR MINICOMPUTER? ?
S7     696579   COMPUTER? ?
S8     914320   VACUUM? ? OR PUMP? ? OR COMPRESSOR? ? OR COMPRESSION()(DEV-
             ICE? ? OR MACHINE OR MACHINES)
S9      87795   MOUTH? ? OR (ORAL OR BUCCAL OR PHARYNGEAL)()(CAVITY OR CAV-
             ITIES) OR THROAT? ? OR PHARYNX
S10      1770   APNEA OR SNORE? ? OR SNORING OR STERTOR OR AOP OR CHEYNE()-
             STOKES
S11     34002   BREATHING OR RESPIRATORY OR RESPIRATION
S12     94128   PRESSURE(2N)CHANG??? OR (ATMOSPHERIC OR POSITIVE OR NEGATI-
             VE)()PRESSURE
S13    109241   IC=(A61M-016 OR A62B OR A61M-015 OR A61B-005 OR F61K-031 OR
              B65D-81)
S14   1773050   S1:S2
S15   2003988   S3:S7
S16     26577   S14 AND S15 AND S8
S17        74   S16 AND S9
S18         4   S12 AND S17
S19         0   S13 AND S18
S20         4   S13 AND S17
S21         4   S20 NOT S18
S22        36   S14(S)S15(S)S8 AND S9
S23        30   S22 NOT (S18 OR S20)
S24         5   S17 AND S10:S11
S25         0   S24 NOT (S18 OR S20 OR S22)

18/26,TI/3     (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.
05255549
METHOD AND APPARATUS FOR MEASURING AMMONIA IN EXPIRATION

 21/26,TI/1     (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004  Thomson Derwent. All rts. reserv.
015096477
WPI Acc No: 2003-156995/200315
  Handheld compact diagnostic device used in medical applications,
  comprises chemical sensing elements detecting chemical components and
  producing electrical change after detection

 21/26,TI/2     (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004  Thomson Derwent. All rts. reserv.
012228761
WPI Acc No: 1999-034868/199903
  Portable metabolic parameters measuring system - Has flowmeter with
```

turbine made up of two elycoidal conveyors operating with IR diodes and phototransistors

21/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003001755
WPI Acc No: 1981-A1755D/198102
Air dust content sampler for operator - has attached breathing measuring transmitter connected to equaliser and amplifier with air compressor **speed** controller

21/7,K/4 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

03249167 **Image available**
DEVICE FOR SUPPLYING OXYGEN ENRICHED AIR
PUB. NO.: 02-224667 [JP 2224667 A]
PUBLISHED: September 06, 1990 (19900906)
INVENTOR(s): UEHARA DAIJI
OGAWA TETSUO
APPLICANT(s): NAGANO KEIKI SEISAKUSHO LTD [350974] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-044487 [JP 8944487]
FILED: February 22, 1989 (19890222)
ABSTRACT
PURPOSE: To feed oxygen enriched air so as to meet the **respiration** state of a human body and to obviate the wasteful consumption of the oxygen enriched air by providing a selector valve on a supply path for feeding the oxygen enriched air to the human body, providing a respiration **sensor** to measure the timing of **inhalation** and **expiration** in the prescribed section of the human body and computing the opening and closing timing of the selector valve by means of a **controller** according to the output signal from the **sensor**.
CONSTITUTION: An oxygen enricher 1 is constituted of an oxygen enriching membrane 1a and a **vacuum pump** 1b. The oxygen enriched air formed by this oxygen enricher 1 is once stored in a buffer tank 2 and is fed through the on-off selector valve 3 to the inside of the patient's **oral cavity** or nose cavity from this tank 2 by an oxygen enriched air supply path 8. The selector valve 3 constitutes a part of a respiration tuning device 6. The respiration tuning device 6 has the respiration **sensor** 5 to detect the timing of the inhalation and expiration of the patient in addition to the selector valve 3. A **controller** 4 controls the opening and closing timing of the valve 3 according to the signal from this **sensor** 5. The oxygen enriched air is supplied without giving trouble to the man's respirator, etc., and the waste of the oxygen enriched air is lessened.
INTL CLASS: **A61M-016/00**

23/26,TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011686107
WPI Acc No: 1998-103017/199810
Leakage detection system for detecting **leaks in interstitial chambers under conditions of** vacuum **- has pneumatic circuit with** vacuum **generator together with vacustats which emit signal at given** vacuum **level, connecting control**

microprocessor **to acoustic and luminous alarm devices**

23/26,TI/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
007211890
WPI Acc No: 1987-208899/198730
System for monitoring cavity in jet pump - includes detector for pressure in reaction vessel and detector for differential pressure in diffusor portion of pump

23/26,TI/20 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
007124713
WPI Acc No: 1987-124710/198718
Device for Administering oral fluid to patient - has container connected by tube to nipple provided with soft reticulate mouthpiece

23/26,TI/30 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.
02724324
RESIST DROPPING APPARATUS

23/7,K/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
014871887 **Image available**
WPI Acc No: 2002-692593/200275
Control of vacuum pressure supply to the mouth **suction installation in a dental practice, such that pressure is constant independent of the number of connections or the relative position of a connection**
Patent Assignee: FUNK G D (FUNK-I)
Inventor: FUNK G D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 10112411	A1	20020919	DE 1012411	A	20010315	200275	B

Priority Applications (No Type Date): DE 1012411 A 20010315
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 10112411	A1		3	A61C-017/08	

Abstract (Basic): DE 10112411 A1

NOVELTY - Control system for use with a saliva removal system in the treatment rooms of a dental practice. The **pump** system has a stepless rotational velocity **controller** (frequency transformer without an electronic controller) for load dependent control of the suction **pressure**.

DETAILED DESCRIPTION - A pressure **sensor** is used to measure the **vacuum** pressure existing in the system and a **controller** is integrated in the frequency transformer or an external **controller** to control the frequency transformer without an electronic **controller** .

USE - Control of pressure supply to the **mouth** suction installation in a dental practice.

ADVANTAGE - The inventive system ensures that the suction pressure

remains the same independent of the number of treatment rooms being used and the position of the room relative to the suction pump.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of the system. (Drawing includes non-English language text).

pp; 3 DwgNo 1/1

Derwent Class: P32; S05
International Patent Class (Main): A61C-017/08
International Patent Class (Additional): A61C-017/12

```
File 348:EUROPEAN PATENTS 1978-2004/Feb W05
File 349:PCT FULLTEXT 1979-2002/UB=20040304,UT=20040226
Set     Items   Description
S1     305042   SENSOR OR SENSORS OR DETECTOR? ?
S2     266862   SENSING OR DETECTING
S3     172600   CONTROLLER? ? OR MICROCONTROLLER? ?
S4     195548   PROCESSOR? ? OR MICROPROCESSOR? ?
S5      67786   CPU OR CENTRAL()PROCESSING()(UNIT OR UNITS)
S6      25972   MICROCOMPUTER? ? OR MINICOMPUTER? ?
S7     289551   COMPUTER? ?
S8     354691   VACUUM? ? OR PUMP? ? OR COMPRESSOR? ? OR COMPRESSION()(DEV-
             ICE? ? OR MACHINE OR MACHINES)
S9      62205   MOUTH? ? OR (ORAL OR BUCCAL OR PHARYNGEAL)()(CAVITY OR CAV-
             ITIES) OR THROAT? ? OR PHARYNX
S10      2995   APNEA OR SNORE? ? OR SNORING OR STERTOR OR AOP OR CHEYNE()-
             STOKES
S11     42359   BREATHING OR RESPIRATORY OR RESPIRATION
S12     87929   PRESSURE(2N)CHANG??? OR (ATMOSPHERIC OR POSITIVE OR NEGATI-
             VE)()PRESSURE
S13     23275   IC=(A61M-016 OR A62B OR A61M-015 OR A61B-005 OR F61K-031 OR
              B65D-81)
S14     10978   S1:S2(S)S3:S7(S)S8
S15        51   S14(S)S9
S16         5   S12(S)S15
S17         5   S10:S11(S)S15
S18         7   S16:S17
S19         0   S16:S17 NOT S18
S20        44   S15 NOT S18
S21         3   S13 AND S20
S22        41   S20 NOT S21
S23        21   S22/TI,DE,AB,CM

 18/3,AB,K/1     (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00598155
Apparatus for the therapeutic intermittent delivery of oxygen
Therapeutisches Gerat zur intermittierenden Abgabe von Sauerstoff
Appareil therapeutique pour l'administration intermittente d'oxygene
PATENT ASSIGNEE:
  METROPOLITAN CLINICAL LABORATORIES (1987) LTD., (1726400), 201-660 West
    7th Avenue, Vancouver, B.C., (CA), (applicant designated states:
    AT;BE;CH;DE;DK;ES;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
  Smith, Donald M., 207 East 7th Avenue, Vancouver, B.C. V3L 4H5, (CA)
  Townley, Roderick Malcolm, 2631 Gladys Avenue, Abbotsford, B.C. V2S 3X6,
    (CA)
LEGAL REPRESENTATIVE:
  Perani, Aurelio et al (42462), c/o JACOBACCI & PERANI S.p.A Via Visconti
    di Modrone, 7, I-20122 Milano, (IT)
PATENT (CC, No, Kind, Date):  EP 602734  A1  940622 (Basic)
APPLICATION (CC, No, Date):   EP 93203483 931210;
PRIORITY (CC, No, Date): US 991824 921216
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC;
  NL; PT; SE
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ABSTRACT EP 602734 A1

An apparatus for supplying measured doses of **respirating** gas to a person in synchronization with the **respiratory** cycle of said person comprising: (a) step control relay means having a connection adapted for connecting to a source of respirating gas, said step control relay means being adapted to be controlled by a **microcontroller** means; (b) gas flow **sensor** means adapted for determining the onset or expiry of an **inspiration** phase of the person, said gas flow **sensor** means being connected to a **respiratory** gas outlet adapted for connection to the **respiratory** tract of said person, said gas flow **sensor** means being connected to said step control relay means to enable **respiratory** gas upon command from the **microcontroller** to be transferred from said step control relay means to said flow **sensor** means, and ultimately to the person, said flow **sensor** means being adapted to deliver transmit electric signals to the **microcontroller** in synchronization with the onset and termination of the **inspiration** phase by the person; (c) electrical power supply means adapted for connection to said **microcontroller** and upon command from the **microcontroller**, delivering an electrical current to said step control relay means; (d) a **microcontroller** means adapted to receive electric signals from said gas flow **sensor** means, and to deliver programmed electric signals to said step control relay means; (e) a liquid display crystal means adapted to display programmed data from said microcomputer controller means, and data received from said gas flow sensor means; and (f) keyboard switching means connected to said **microcontroller** unit means for enabling manual signals to be conveyed to said **microcontroller** means and displayed on said liquid display crystal means. (see image in original document)

ABSTRACT WORD COUNT: 279

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FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF2	1021
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Total word count - document A			7504
Total word count - document B			0
Total word count - documents A + B			7504

...SPECIFICATION step controlled latching solenoid.

DETAILED DESCRIPTION OF SPECIFIC EMBODIMENTS OF THE INVENTION

The demand oxygen **controller** and **respiratory** monitor (DOCARM) of the invention provides a unique high technology readily portable breath **sensor** which delivers oxygen and **respiratory** gases only when the user person inspires, and monitors, adjusts, alerts and displays a number of important parameters pertaining to the person such as low battery alarm, **apnea** alarm, battery charge, total oxygen consumed, oxygen flow rate, time data, average pulse rate and pulse off-time, **computer** alert and error number. The demand oxygen **controller** and **respiratory** monitor automatically adjusts to different atmospheric conditions and elevations. A typical method of oxygen supply to the user is through a mask or nasal cannula. The **sensing** device used in the demand oxygen **controller** and **respiratory** monitor is extremely sensitive and is triggered by a very small **vacuum** created across the mask or cannula on inspiration. A pressure drop as low as 0...

...mm H(sub 2)O is registered even when the user is asleep, that is, **breathing** with the **mouth** open, and little air is drawn through the nostrils...

18/3,AB/2 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00984624
METHOD AND INSTRUMENT FOR MEASURING SURFACE TENSION
PROCEDE ET INSTRUMENT POUR MESURER LA TENSION SUPERFICIELLE
Patent Applicant/Assignee:
JENSER TECHNOLOGY AB, Johannelundsvagen 51, S-163 45 Spanga, SE, SE (Residence), SE (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
SKOGO Marten, Sankt Goransgatan 153, 5 tr, S-112 51 Stockholm, SE, SE (Residence), SE (Nationality), (Designated only for: US)
ELVESJO John, Johannelundsvagen 55, S-163 45 Spanga, SE, SE (Residence), SE (Nationality), (Designated only for: US)
Legal Representative:
BERGENSTRAHLE & LINDVALL AB (agent), P.O.Box 17704, S-118 93 Stockholm, SE,
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Priority Application: SE 20012701 20010810; SE 2002954 20020327
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
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(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: Swedish
Fulltext Word Count: 6418
English Abstract
For measuring the surface tension between a liquid and fluid such as a gas, a capillary (3, 3') is used in which the liquid slowly flows and at the end of which drops (11) are formed, falling off into a closed space (7) containing the fluid. Using a pressur esensor (5, 5') the pressure is measured which can be the absolute pressure of a fluid volume enclosed in teh closed space or alternatively a differential pressure measured as the pressure difference between the liquid in the capillary and fluid contained in theclosed space. The pressure is measured when one or more drops are formed and fall off. The obtained pressure curves are evaluated electronically (12) and provide a value of the surface tension. The measurement can be made within a fairly short time with a high operational reliability. The temperature difference between the drop and the surrounding fluid is small resulting in a little precipitation of salts dissolved in the liquid, reducing the risk that the liquid capillary with be blocked. A pump can be connected (9) to the closed space to create a subatmospheric pressure therein and thereby assist in restarting the liquid flow through the capillary if it would be blocked. The velocity of the liquid flow to the drop can be controlled using the pump.
Fulltext Availability: Claims

18/3,AB,K/3 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00962707

METHOD AND APPARATUS FOR NON-INVASIVE BREATHING ASSIST

PROCEDE ET APPAREIL D'ASSISTANCE RESPIRATOIRE NON INVASIVE

Patent Applicant/Assignee:
DEKA PRODUCTS LIMITED PARTNERSHIP, 340 Commercial Street, Manchester, NH 03101, US, US (Residence), US (Nationality)
Inventor(s):
DEMERS Jason A, 387 North Bay Street, Manchester, NH 03104, US,
MCGILL David, 29 West Drive, Bedford, NH 03110, US,
Legal Representative:
CONWAY John L (et al) (agent), Bromberg & Sunstein LLP, 125 Summer Street, Boston, MA 02110-1618, US,

Patent and Priority Information (Country, Number, Date):
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Application: WO 2002US16204 20020522 (PCT/WO US0216204)
Priority Application: US 2001867128 20010529
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
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English Abstract
An apparatus, method and system for non-invasive **breathing** assistance to a patient. The apparatus comprises a hose or other gas conduit (30) with a valve (50). Proximity of the patient to a **sensor** (60) causes the valve (50) to open, directing a **pressurized** stream of air or other gas at the patient's **mouth** (10), assisting the patient in **breathing**.

Fulltext Availability: Detailed Description

Detailed Description

... of the present invention which directs a pressurized stream of gas at a patient's **mouth** 10. A source 20 of a stream of pressurized gas, such as a **pump** or a pressurized gas cylinder or a fan, is provided. The gas may be atmospheric...tube and a pipe. The outlet directs the stream of gas at the patient's **mouth** 10. A valve 50 in the conduit modulates the stream of gas including varying the flow rate or pressure and additionally 2
turning the flow off and on. A **sensor** 60 senses a **respiratory** need of the patient and signals a **controller** 70 typically via an electromagnetic channel. Such **sensors** 60 may include, for example without limitation, a microswitch triggered by contact ...the patient's moilth or another part of the patient's body or an infrared **detector** that detects proximity of the patient's head or a motion **sensor** that detects movement of the patient's. When the **controller** 70 receives the signal from the **sensor** 60 indicating the patient's **respiratory** need, the **controller** opens the valve, either partially or fully, thereby directing the pressurized stream of gas at the patient's **mouth** , providing assistance in inflating the patient's lungs.
As an illustrative example, for a patient...

18/3,AB,K/6 (Item 5 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

00766996

APPARATUS FOR CONTROLLING CUFF PRESSURE IN AN ENDOTRACHEAL TUBE

APPAREIL DE REGULATION DE LA PRESSION DU MANCHON DANS UNE SONDE D'INTUBATION TRACHEALE

Patent Applicant/Assignee:
CARADYNE (R & D) LIMITED, Parkmore Business Centre, Parkmore West, Galway , IE, IE (Residence), IE (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
O'DEA John, 66 Westbrook, Barna Road, Galway, IE, IE (Residence), IE (Nationality), (Designated only for: US)
Legal Representative:
F F GORMAN & CO, 54 Merrion Square, Dublin 2, IE
Patent and Priority Information (Country, Number, Date):
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Application: WO 2000IE82 20000623 (PCT/WO IE0000082)
Priority Application: IE 99525 19990624 (IE U)
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(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
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(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
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English Abstract
Apparatus (1) for controlling **pressure** in a cuff (2) of an endotracheal tube (3) comprises a pole mountable housing (25) within which an inflating medium supply **pump** (30) is located for supplying inflating medium to the cuff through a communicating tube (18) integral with the endotracheal tube (3) and a delivery tube (37) from the apparatus (1). A **pressure** transducer (28) connected to the endotracheal tube (3) by a connecting tube (29) monitors the **pressure** of the ventilating medium in the endotracheal tube (3) for determining transitions from the **inspiratory** to the **expiratory** phases of a **breathing** cycle. A **microcontroller** (27) controls the supply **pump** (30) for supplying the inflating medium to the cuff (2) at a first pressure level during the inspiratory phase of each breathing cycle and at a lower second pressure level during the expiratory phase of each breathing cycle.
Fulltext Availability: Claims
Claim
... tube. Endotracheal tubes are well known. In use, an endotracheal tube is inserted through the **mouth** of a subject into the trachea for facilitating ventilating of the subject from a ventilator...
...in the trachea of the subject and leak passed of the ventilating medium into the **mouth** of the subject is avoided during the inspiratory phase of each **breathing** cycle. A communicating tube is provided on the endotracheal tube for communicating with the cuff...
...vocal cords of the subject. Due to pressure variation of the ventilating medium during a **breathing** cycle, for example, the pressure variation as a **breathing** cycle transitions between the inspiratory phase and the

expiratory phase, and indeed, over a series of **breathing** cycles, it is difficult to achieve an adequate degree of sealing of the endotracheal tube...
...trachea for all such pressure variations to avoid leakage of the ventilating medium into the **mouth** of the subject. Additionally, in order to facilitate manual inflating of the cuff by a...varies, in other words to provide high cuff pressure during the inspiratory phase of each **breathing** cycle and low cuff pressure during the expiratory phase. In general, such apparatus require that...
...in general are unable to accurately track transitions between the inspiratory and expiratory phases of **breathing** cycles. U.S. Patent Specification No. 4,825,862 of Sato discloses apparatus for regulating...
...pressure of a separate gas supply to the cuff in response to pressure variation in **breathing** cycles. However, the regulator disclosed in this U.S. specification is a mechanically operated regulator...
...would be unable to react with the speed required to vary the pressure during individual **breathing** cycles. However, irrespective of whether the regulator of the apparatus of Sato would be capable of tracking the pressure variation of the ventilating medium during each **breathing** cycle, the apparatus of Sato requires a separate gas supply, in other words, the apparatus...
...U.S. Patent Specification No. 5,235,973 of Levinson also discloses a cuff pressure **controller** for controlling cuff pressure of an endotracheal tube in which the cuff pressure is held at a high pressure during the inspiratory phase of a **breathing** cycle, and is held at low pressure during the expiratory phase. However, the cuff pressure **controller** of Levinson requires the supply of gas from a separate external gas source for inflating endotracheal tube for minimising leak past of ventilating medium into the **mouth** of the subject during the inspiratory phase of a **breathing** cycle, and which avoids the need for having a separate external pressurised gas source for...
...respective first
and second pressure levels during the inspiratory and expiratory phases, respectively of each **breathing** cycle of a subject, wherein the apparatus comprises an inflating medium supply means for supplying...
...medium at the second pressure level to the cuff during the expiratory phase of each **breathing** cycle. In one embodiment of the invention the inflating medium supply means is a variable...
...medium at the first pressure level to the cuff during the inspiratory phase of each **breathing** cycle. In another embodiment of the invention a monitoring means is provided for determining the transitions between the respective inspiratory and expiratory phases during a series of sequential **breathing** cycles, and the control means is responsive to the monitoring means for controlling the inflating...
...respective first and second pressure levels during the inspiratory and expiratory phases, respectively, of each **breathing** cycle. Preferably, the monitoring means monitors the pressure of the ventilating medium to the subject...
...a function of the pressure of the ventilating medium during the inspiratory phase of each **breathing** cycle. Advantageously, the control means controls the inflating medium supply means for supplying the inflating...
...pressure level tracking the pressure of the ventilating medium during the inspiratory phase of each **breathing** cycle. In one embodiment of the invention the control means controls the inflating medium supply...
...level similar to the pressure of the ventilating medium during the

inspiratory phase of each **breathing** cycle. In another embodiment of the invention the control means controls the inflating medium supply...
...differential relative to the pressure of the ventilating medium during the inspiratory phase of each **breathing** cycle. In a further embodiment of the invention the control means controls the inflating medium the inspiratory phase of each **breathing** cycle. Preferably, the predetermined pressure by which the first pressure level of the inflating medium is above the pressure of the lo ventilating medium during the inspiratory phase of each **breathing** cycles lies in the range of 1 mBar to 1 0 mBar. Advantageously, the predetermined...
...medium is above the pressure of the ventilating medium during the inspiratory phase of each **breathing** cycle lies in the range of 2 mBar to 3 mBar. In another embodiment of...
...predetermined pressure below the pressure of the ventilating medium during the inspiratory phase of each **breathing** cycle. Preferably, the predetermined pressure by which the first pressure level of the inflating medium is below the pressure of the ventilating medium during the inspiratory phase of each **breathing** cycle lies in the range of 5 mBar to 20 mBar. In an alternative embodiment...
...for inflating the cuff at the first pressure level during the inspiratory phase of each **breathing** cycle is derived from the ventilating medium. Advantageously, the ventilating medium is derived from the...
...the ventilating medium and the inflating medium supply means during the inspiratory phase of each **breathing** cycle, and from the inflating medium supply means during the expiratory phase of each **breathing** cycle. Advantageously, the valving means comprises a means for valving the medium of highest pressure...
...predetermined pressure below the pressure of the ventilating medium during the inspiratory phase of each **breathing** cycle. In a further embodiment of the invention ...one embodiment of the invention the inflating medium supply means comprises an inflating medium supply **pump** . Preferably, the inflating medium supply **pump** is provided by an electric motor operated **pump** . Advantageously, the electric motor of the inflating medium supply **pump** is controlled by the control means. Preferably, a smoothing means is provided for smoothing the...
...a pressure reducing means is provided for reducing the pressure in the cuff as each **breathing** cycle is transitioning from the inspiratory to the expiratory phase. Preferably, the pressure reducing means...
...levels. Advantageously, the input means comprises an input keypad. Preferably, the control means comprises a **microcontroller** . In a preferred embodiment of the invention the apparatus comprises a housing, and the inflating...
...is responsive to the ventilator transitioning between the respective inspiratory and expiratory phases of the **breathing** cycle.
In a further embodiment of the invention the apparatus also comprises an endotracheal tube...in the pressure to which the cuff is inflated during the expiratory phase of each **breathing** cycle, thereby reducing discomfort to the subject, and also avoiding damage to the trachea and...
...apparatus responds relatively quickly to the transition between the inspiratory and expiratory phases of each **breathing** cycle, and between the expiratory and inspiratory phases of sequential **breathing** cycles. The provision of the inflating medium supply means as an electrically powered **pump** provides a particularly efficient and quick to respond apparatus, and providing the control means as a **microcontroller** further enhances the response time of the apparatus for supplying the inflating

medium at the...
...second pressure levels in response to transitions between the inspiratory and expiratory phases of each **breathing** cycle. Furthermore, by virtue of the fact that the cuff is continuously inflated, the need... to be relaxed to the lower second pressure level during the expiratory phase of the **breathing** cycle and raised to the higher first pressure level for minimising leakage of the ventilating medium into the **mouth** of the subject during the inspiratory phase of the **breathing** cycle. The invention will be more clearly understood from the following description of some preferred...
...typically, a subject in a prone condition. The endotracheal tube 3 is inserted through the **mouth** 5 into the trachea 6 of a subject 7, and a coupling 9 on one...
...tube 3 in the trachea 6 for preventing leak past of ventilating medium into the **mouth** of the subject during the inspiratory phase of each **breathing** cycle. A communicating tube 18 extends along part of the endotracheal tube 3, and is...
...a subject, or located adjacent the bed of a subject. A control means comprising a **microcontroller** 27 is located ...connector 20 monitors the pressure of the ventilating medium in the endotracheal tube 3. The **microcontroller** 27 reads the output from the pressure transducer 28 for determining the pressure of the...
...also for determining transitions between the inspiratory phase and the expiratory io phase of each **breathing** cycle and vice versa. An inflating medium supply means comprising a DC electric motor driven variable pressure supply **pump** 30 is located in the housing 25 and is operated under the control of a motor control circuit 31 by the **microcontroller** 27 for supplying inflating medium, which in this embodiment of the invention is air at two pressure levels, namely, a first pressure level during the inspiratory phase of each **breathing** cycle, and a second pressure level which is lower than the first pressure level during the expiratory phase of each **breathing** cycle. A smoothing means comprising a reservoir 32 which forms a buffer chamber 34 receives the inflating medium from the supply **pump** 30 for smoothing out **pump** induced pressure variations. The reservoir 32 is located in the housing 25. A pressure reducing...
...facilitating exhausting of inflating medium for reducing the pressure in the cuff 2 as the **breathing** cycle is transitioning from the inspiratory phase to the expiratory phase. The exhaust vent 35...
...chamber 34 while the pressure of the inflating medium is being supplied by the supply **pump** 30 at the respective first and second pressure levels. A delivery means, namely, a delivery...
...respective first and second pressure levels during the inspiratory and expiratory phases, respectively, of each **breathing** cycle. The motor control circuit 31 is located in the housing 25, and a current...
...motor control circuit 31. The output from the current monitor 38 is read by the **microcontroller** 27 for **detecting** any danger of the supply **pump** 30 operating at a level which would cause the inflating medium to be supplied at...
...An alarm means comprising an alarm circuit 39 is operable under the control of the **microcontroller** 27 in response to an over pressure being determined from signals read by the **microcontroller** 27 from the current monitor 38. The alarm circuit 39 may comprise an audio or...keypad 40 is provided on the housing 25 for facilitating inputting of commands to the **microcontroller** 27 for setting the first and second pressure levels as will be described below. A...

...diode 44 clamps one of the power supply inputs to the motor of the supply **pump** 30 to ground for avoiding an over voltage condition. The **microcontroller** 27 may be programmed for controlling the power supply to the **pump** motor for in turn controlling the rate at which the supply **pump** 30 supplies the
inflating medium so that the inflating medium may be supplied at various arrangements of first and second pressure levels. At its simplest, the **microcontroller** 27 may be programmed for controlling the supply **pump** 30 for supplying the inflating medium at the first pressure level which would be a...

...sufficient for securing and retaining the endotracheal tube 3 in the trachea 6. Alternatively, the **microcontroller** 27 may be programmed for allowing the first pressure level to be a varying pressure...

...which would track the pressure of the ventilating medium during the inspiratory phase of the **breathing** cycle. The first pressure level could track the monitored ventilating medium pressure identically, or could...

...pressure at a pressure above or below the ventilating medium pressure. In this case the **microcontroller** 27 would control the supply **pump** to supply the inflating medium at the first pressure level in response to the pressure...

...pressure would be relatively slight. Similarly in the case of the second pressure level, the **microcontroller** 27 could be programmed for operating the supply **pump** 30 for supplying the inflating medium at the second pressure level which would vary during the expiratory phase of each **breathing** cycle, and would track the pressure of the ventilating medium during the expiratory phase of the **breathing** cycle at an identical pressure to the ventilating medium pressure or at ...be preferable to maintain the second pressure level at a predetermined constant pressure. If the **microcontroller** 27 were programmed for operating the supply **pump** 30 for supplying the inflating medium at the first and/or second pressure levels tracking...

...track the ventilating medium pressure would be entered through the input keypad 40. Additionally, the **microcontroller** 27 may be programmed to adjust the rate of **change** of the **pressure** of the inflating medium when transitioning between the first and second pressure levels, and in...

...avoid discomfort to the subject. In use, the endotracheal tube 3 is inserted through the **mouth** 5 of the subject 7 into the trachea 6, and is connected to a ventilator...

...cuff 2 is to be inflated during the inspiratory and expiratory phases, respectively, of each **breathing** cycle are inputted to the **microcontroller** 27 through the input keypad 40, or alternatively, the desired values of the first and...

...The apparatus is now ready for use, and as the subject is ventilated the **microcontroller** 27 operates the supply **pump** 30 through the motor control circuit 31 for continuously supplying inflating medium at the first pressure level during the inspiratory phase of each **breathing** cycle, and for continuously supplying the inflating medium for inflating the cuff 2 at the second pressure level during the expiratory phase of each **breathing** cycle. The **microcontroller** 27 reads the output from the pressure transducer 28 for determining the ends of the respective inspiratory and expiratory phases of each **breathing** cycle, and as the inspiratory phase of the **breathing** cycle is just about to end the **microcontroller** 27 controls the supply **pump** 30 through the motor control circuit 31 for switching from supplying inflating medium at the...

...pressure level to supplying the inflating medium at the second pressure

level. Similarly, as the **microcontroller** 27 determines from the output from the pressure transducer 28 that the expiratory phase of each **breathing** cycle is just about to end the **microcontroller** 27 operates the supply **pump** 30 through ...the first and second pressure levels during the inspiratory and expiratory phases, respectively, of each **breathing** cycle. Referring now to Fig. 3 there is illustrated apparatus according to another embodiment of...

...comprises a housing 25, similar to the housing 25 of the apparatus 1. The supply **pump** 30 operated under the control of the motor contro 1 circuit 31 is also located...that solenoid valves may be provided which would be operated under the control of the **microcontroller** . However, in such a case, a lo monitoring means would be provided for determining the transitions from the inspiratory to the expiratory phases and vice versa of the **breathing** cycles. Such a monitoring means would be provided in the same fashion as the monitoring means of the apparatus 1. While the monitoring means for **detecting** the transition between the inspiratory and expiratory phases of a **breathing** cycle has been described as comprising a pressure transducer, it will be readily apparent to those skilled in the art that any other suitable monitoring means for **detecting** transition between the inspiratory and expiratory phases of each **breathing** cycle may be used. For example, it is envisaged that a flow **sensing** means may be provided for **sensing** the direction of flow of the ventilating medium in the endotracheal tube, and a reversal...

...ventilating medium would indicate a transition from the inspiratory to the expiratory phases of each **breathing** cycle. Needless to say, any other suitable pressure **sensing** means may be used or any other type of flow **sensing** means may be used. It is also envisaged that the transition between the inspiratory and expiratory phases of each **breathing** cycle could be communicated to the control means directly from the ventilator supplying the ventilating...

...envisaged that the monitoring means could be dispensed with, and the apparatus could share the **microcontroller** of the ventilator. In which case, the supply **pump** could be operated under the control of the ventilator **m**icrocontroller for supplying the ventilating medium at the respective first and second pressure levels or at...

...the apparatus 1 and 50 to the endotracheal tube. In general, when the means for **detecting** the transition between the inspiratory and expiratory phases of a **breathing** cycle is provided by a pressure **sensor** , it ...thus, the adapter 55 may be located on the endotracheal tube relatively close to the **mouth** of the subject. Needless to say, if the means for determining the transition between the inspiratory and expiratory phases of a **breathing** cycle were provided by a flow **sensor** , it is also desirable that the flow of the ventilating medium be monitored as closely as possible to the **mouth** of the subject.

Claims

I . Apparatus for controlling cuff pressure in a cuff (2) of...

...respective first and second pressure levels during the inspiratory and expiratory phases, respectively of each **breathing** cycle of a subject, characterised in that the apparatus (1,50) comprises an inflating medium...

...the second pressure level to the cuff (2) during the expiratory lo phase of each **breathing** cycle.

2 Apparatus as claimed in Claim 1 characterised in that the inflating medium supply...

21/6/2 (Item 2 from file: 349)
00463268 **Image available**

PORTABLE SYSTEM WITH TELEMETRIC DATA TRANSMISSION FOR THE MEASUREMENT OF METABOLIC PARAMETERS

21/6/3 (Item 3 from file: 349)
00275468
UPPER AERO DIGESTIVE TRACT MEASUREMENT APPARATUS

23/6/5 (Item 2 from file: 349)
01031874 **Image available**
DEVICE AND METHOD FOR THE IDENTIFICATION OF ANALYTES IN BODILY FLUIDS

23/6/15 (Item 12 from file: 349)
00348685
CONTROLLED RELEASE INSUFFLATION CARRIER FOR MEDICAMENTS